Acquired condylar hypoplasia: case report

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Introduction

Condylar hypoplasia is the underdevelopment or defective formation of the condyle, which can be congenital or acquired. Congenital hypoplasia is present at birth, while acquired condylar hypoplasia occurs from an event that interferes with its normal development. This event can be trauma, infection, radiation, endocrine disorder, or systemic arthropathy.1

Case report

A 12-year-old white female presented with the complaint of pressure sensitivity to her upper right posterior teeth. A clinical and intraoral radiographic evaluation of her teeth and periodontium did not reveal any pathology. A panoramic radiograph was taken to screen for other causative pathology and disclosed moderate hypoplasia of the right condyle (Fig 1). The patient exhibited a normal interincisal opening and minimal deviation upon opening.

A computerized tomographic scan was taken to determine if a tumor was eroding the condyle. The scan revealed no tumor was present and confirmed the condylar hypoplasia, without disruption of its normal cortical or medullary bone.

The patient’s mother stated that four years earlier, her daughter jumped off a diving board facing backwards and in her descent, caught the diving board with the bottom of her chin. An examination and radiographs performed at that time demonstrated no bony fractures. The patient had persistent tenderness to her right temporomandibular joint area for several months following the accident.

Upon review of the findings and the patient’s history, it was concluded that sudden impact to the TMJ was the most likely cause for the altered growth of her right condyle.

The nature of her discomfort was mild and intermittent and she was able to obtain relief with non-narcotic analgesics. Management of the patient consisted of home care instructions to limit unnecessary parafunctional habits, a maxillary flat plane occlusal splint and annual follow-up visits.

Discussion

Acquired condylar hypoplasia is due to an interference of the growth process within the articular carti-

Fig 1. Panoramic radiograph revealing moderate hypoplasia of the right condyle.
The articular cartilage is avascular and dependent upon the diffusion of nutrients through the synovial fluid. Mandibular trauma can cause intra-articular hemorrhage, which often induces synovial hypertrophy and acute synovitis. This may cause the synovial fluid volume to increase, which pushes the capsule against the subsynovial capillary network, restraining the blood flow to the joint and thereby decreasing the oxygen tension within the synovial fluid. Hypoxia develops, metabolic by-products accumulate, and depression of cellular synthesis occurs.

The severity of condylar hypoplasia is related to the growth phase of the condyle (before birth until approximately age 25). Condylar growth is most active during the earlier years and disturbances during these years will produce more pronounced condylar hypoplasia.

Parental misperceptions contribute to delay in child immunizations

Many postpone shots when child has minor illness

Even in "low risk" populations, parental misperception about immunizations is a significant, contributing factor to low immunization rates, according to a study published in the September issue of the AMA's American Journal of Diseases of Children. Bruce Abbotts, MD, MPH, Valley Young People's Clinic, Spokane, Wash., and Lucy M. Osborn, MD, MSPH, University of Utah Health Sciences Center, Salt Lake City, Utah, conducted a study to determine whether children attending five Salt Lake City health department clinics were being immunized in a timely manner, and to investigate the reasons for children not being immunized on schedule.

The authors concluded: "If we are to achieve our year 2000 objectives of complete immunization of 90% of children aged 2 years, correction of misperceptions must be targeted by health care providers and public health agencies. A concerted effort to convey accurate, nonbiased information must be made by the media."

The study says that immunization rates in some European countries are as high as 94% for diphtheria, tetanus, and pertussis (DTP) for children under the age of three, but in the United States, the rates for the same vaccines are 64% overall, and 48% for nonwhite populations.

The researchers collected data from November 1990 to March 1991 from parents of children presenting to five Salt Lake City Health Department clinics for minor illness, because minor illness in children has been reported to be a common reason for immunization delay. Immunization records were available for 316 children for whom immunization records were completed.

The study showed that 79% of the children had received their first immunization by age 4 months, but only 27% had received three doses of DTP by age 8 months. Only 34% had received the fourth dose of DTP by age 20 months. Rates for immunization of measles, mumps, and rubella (MMR) were 49% by age 20 months.

Children were mostly white; they came from two-parent households with reasonably high incomes and high parental education level. More than 75% had postponed bringing their children in for immunization. The most common reason given for delay was minor illness in the child.

The researchers write: "Although the efficacy of the measles vaccine during upper respiratory tract infections has been questioned, there are cogent reasons to continue the recommendation that immunizations not be put off during minor illnesses."